

**METHOD AND SYSTEM FOR PROGRAM TRANSFORMATION USING
FLOW-SENSITIVE TYPE CONSTRAINT ANALYSIS**

INVENTOR:

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ABSTRACT OF THE DISCLOSURE

A method for analyzing a program is provided. The method includes,
determining an object type that may exist at an execution point of the program, wherein
10 this enables determination of possible virtual functions that may be called; creating a call
graph at a main entry point of the program; and recording an outgoing function call
within a main function. The method also includes analyzing possible object types that
may occur at any given instruction from any call path for virtual calls, wherein possible
object types are determined by tracking object types as they pass through plural
15 constructs; and calling into functions generically for handling specialized native runtime
type information.